

Date: Monday, 07/07/2008 4:16:54 PM  
 User: Julie Lecocq

## Process Sheet

<b>Customer</b> : CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> : BK117 SKIDTUBE ASSEMBLY
<b>Job Number</b> : 40334	
<b>Estimate Number</b> : 12899	
<b>P.O. Number</b> :	<b>Part Number</b> : D117762011
<b>This Issue</b> : 07/07/2008 <b>S.O. No.</b> :	<b>Drawing Number</b> : N/A PRELIM <i>3</i>
<b>Prsht Rev.</b> : NC	<b>Project Number</b> : N/A <i>3</i>
<b>First Issue</b> : / / <b>Type</b> : SKIDTUBES	<b>Drawing Revision</b> : A PRELIM
<b>Previous Run</b> : 40333	<b>Material</b> :
<b>Written By</b> :	<b>Due Date</b> : 18/07/2008 <b>Qty:</b> 1 <b>Um:</b> Each
<b>Checked &amp; Approved By</b> : <i>JLD 08-7-07</i>	
<b>Comment</b> : Est Rev:A 07.06.11 New Issue EC Est Rev:B 08-02-22 change to revA DD verified by:	

## Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
----------------	------------------------------	----------------------

1.0	DC	DOCUMENT CONTROL
-----	----	------------------



**Comment:** DOCUMENT CONTROL *JLD 08-7-24*  
 Photocopy bluefile & type labels per PPP D117-762-011 CHG001 *5 08/08/05*

2.0	40334A	BK117 SKIDTUBE ASSEMBLY
-----	--------	-------------------------



**Comment:** Sub-Component BK117 SKIDTUBE ASSEMBLY  
 1 x D117-762-041 Batch: *46334A* *scf*

3.0	PACKAGING 1	PACKAGING RESOURCE #1
-----	-------------	-----------------------



**Comment:** PACKAGING RESOURCE #1  
 Pick Packing Kit

4.0	D35121	Wearplate
-----	--------	-----------



**Comment:** Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)  
 WEARPLATE  
 Batch: *39020* *JS 08/07/10* *(x1)*

5.0	AN960JD10L	Washer
-----	------------	--------



**Comment:** Qty.: 8.0000 Each(s)/Unit Total: 8.0000 Each(s)  
 Washer  
 Batch: *M104885* *JS 08/07/10* *(x1)*

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Monday, 07/07/2008 4:16:55 PM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 40334

Part Number: D117762011

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

AN3C4A

BOLT



Comment: Qty.: 8.0000 Each(s)/Unit Total: 8.0000 Each(s)

BOLT

BATCH:

M1085568

New Batch

JS

08/07/10

(X9)

7.0

AN451A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Bolt

BATCH:

108077

JS

08/07/10

(X9)

8.0

D2972

Bushing



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Bushing

BATCH:

14103

JS

08/07/10

(X9)

9.0

MS21042L4

Nut



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Nut

BATCH:

M107478

JS

08/07/10

(X1)

10.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

S 08/08/25

(17)

11.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D117-762-011

Location:

PPP Rev:

Draft

8/8/05

SP

12.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/08/26

Job Completion



JS 08-08-26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Monday, 07/07/2008 4:17:32 PM  
 User: Julie Lecocq

## Process Sheet

<b>Customer</b> :	CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> :	BK117 SKIDTUBE ASSEMBLY
<b>Job Number</b> :	40334A	<b>Part Number</b> :	D117762041
<b>Estimate Number</b> :	12898	<b>Drawing Number</b> :	D3582 REVA <del>PRELIM</del> <i>BE</i>
<b>P.O. Number</b> :		<b>Project Number</b> :	N/A
<b>This Issue</b> :	07/07/2008 <b>S.O. No.</b> :	<b>Drawing Revision</b> :	A <del>PRELIM</del> <i>BE</i>
<b>Prsht Rev.</b> :	NC	<b>Material</b> :	
<b>First Issue</b> :	// <b>Type</b> :	<b>Due Date</b> :	18/07/2008 <b>Qty:</b> 1 <b>Um:</b> Each
<b>Previous Run</b> :	40333A		
<b>Written By</b> :			
<b>Checked &amp; Approved By</b> :	<i>JLO 08.7.07</i>		
<b>Comment</b> :	Est Rev:A 07.06.11 New Issue EC Prototype for engineering use only (LG0005-32910) Est Rev:B 08-02-22 change to revA as per dwg DD verified by:		

## Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
----------------	------------------------------	----------------------

1.0	DC	DOCUMENT CONTROL
-----	----	------------------

**Comment:** DOCUMENT CONTROLPhotocopy bluefile & type labels per PPP D117-762-041 CHG001 *N/A*

2.0	D2962150	3.540 Outer Tube, Extrud
-----	----------	--------------------------

**Comment:** Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 D2962-150 Extrusion *B28622*

3.0	SKIDTUBES 1	SKIDTUBESS RESOURCE 1
-----	-------------	-----------------------

**Comment:** LANDING GEAR RESOURCE 1

1-Determine square end of tube and deburr

2-Drill #30 pilot holes using DT8678. Do not open holes.

3- Deburr holes.

4.0	BENDING	BENDING MACHINE - SKIDTUBES
-----	---------	-----------------------------

**Comment:** BENDING MACHINEBend tube as per program on CNC Bender and Dwg D3582. Use 5/16" locator pin on buggy "A". *DP 8-7-10*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Monday, 07/07/2008 4:17:32 PM  
Usar: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 40334A

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

- 1-Cut Fwd end of the tube using DT8185
- 2-Cut Aft end at VC using DT8185
- 3-Deburr ends
- 4-Drill Aft Cap holes using DT8678 \*\*\*DO NOT OPEN AFT CAP HOLE\*\*\*
- 5-Locate DT 8973 & Drill Ground wire hole on top of Tube.
- 6-Install 3/16 cleco in Ground wire hole ,then drill all X-Bolt holes using 3/16" drill.
- 7-Drill pilot holes for wearplates using DT8974
- 8-Open wearplate holes and ground wire holes to Ø19/64" (0.297") as per Dwg D3582.
- 9-Open Aft Cap holes using .209" drill.
- 10-Deburr holes.

8-8-14

6.0

D2964

Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Cap  
Batch

314101 BE 08/07/14

7.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Weld fwd cap D2964 per dwg D3582 and QSI 004

A/R AL ROD

Batch:

m108096/m107877

BE 08/07/14

2-Grind flush

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



Date: Monday, 07/07/2008 4:17:32 PM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 40334A

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

8.0

QC10

VISUAL INSPECTION OF GROUND WELDS



Comment: VISUAL INSPECTION OF GROUND WELDS

*Handwritten: 1608140*

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*Handwritten: 1608140*

10.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

*Handwritten: Ann 8-8-14*

11.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

*Handwritten: M 8-8-17*

12.0

D2971

Cross Bolt Spacer



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Cross Bolt Spacer  
batch 1339011

*Handwritten: ① M 8-8-18*

13.0

D2973

Cross Bolt Spacer



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Cross Bolt Spacer  
Batch: 1314636

*Handwritten: ② M 8-8-18*

14.0

D36621

Crossbolt Spacer



Comment: Qty.: 3.0000 Each(s)/Unit Total: 3.0000 Each(s)

SPACER  
batch 39585

*Handwritten: ③ M 8-8-17*

15.0

D36623

Crossbolt Spacer



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

SPACER  
batch 37190

*Handwritten: ① M 8-8-18*

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Monday, 07/07/2008 4:17:32 PM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 40334A

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

16.0

D35841

Web



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

WEB

B 40362

① M 8-8-17

17.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Open X-Bolt holes to .750"(4Places) as per Dwg D3582, section B-B

2-Counter Sink X-BOLT holes as per Dwg D3582

3-Deburr and blow out chips from inside of tube.

4-Bond web as per Dwg D3582 & QSI 015

A/R 241 Sike Flex

Batch:

M 107893

Exp Date:

10-2008

JB 8-8-15

5-Weld x-bolt spacers(D2973) as per Dwg D3582 section B-B.

A/R AL ROD

Batch:

M 108096

BE 8-8-19

6-Grind welds flush

SL 8-8-19

Tools: E

18.0

QC10

VISUAL INSPECTION OF GROUND WELDS



Comment: VISUAL INSPECTION OF GROUND WELDS

8 08/08/20 (40)

19.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

8 08/08/20 (40)

20.0

POWDER COATING

POWDER COATING



M 108523



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

Pressure wash - 8/8/20 (1)

START TIME:

1:00

OVEN TEMPERATURE:

320 OF

FINISH TIME:

1:30

M 08/08/20

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Monday, 07/07/2008 4:17:32 PM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 40334A

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

21.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



HL



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

08-08-21

(X) (1)

22.0

ALS41032130

Insert



Comment: Qty.: 36.0000 Each(s)/Unit Total : 36.0000 Each(s)

Insert

Batch: m105819

FL

23.0

ALS4428165

Inserts



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Inserts

batch m6989

\*\*\*same as ALS7-428-165 QSI 0017 \*\*\*

FL

24.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Install Wearplate & Ground Wire inserts as per Dwg D3582.

FL 08/08/21 (1)

25.0

D2965

Cap, 105 Skidtube



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Cap

Batch: 641523

FL

26.0

D35083

Wearplate



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARPLATE

Batch: 838527

FL

27.0

D35089

Wearplate



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARPLATE

Batch: 840359

FL 08/08/21 (1)

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Monday, 07/07/2008 4:17:32 PM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 40334A

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

28.0

D350811

Wearplate



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Batch: 636415  
WEARPLATE

FL

29.0

D350813

Wearplate



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARPLATE  
Batch: 638528

FL

30.0

D35583

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

GASKET  
Batch: 638613

FL

31.0

D35589

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

GASKET  
Batch: 636420

FL

32.0

D355811

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

GASKET  
Batch: 636419

FL

33.0

D355813

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

GASKET  
Batch: 636418

FL

34.0

AN3C4A

BOLT



Comment: Qty.: 28.0000 Each(s)/Unit Total : 28.0000 Each(s)

BOLT  
Batch: M108599

FL 08/08/21 (1)

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



Date: Monday, 07/07/2008 4:17:32 PM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 40334A

Part Number: D117762041

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

35.0	AN3C5A	Bolt
------	--------	------



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Bolt

Batch:

*m108744*

*FL*

36.0	AN44A	Bolt
------	-------	------



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Bolt

batch

*m106918*

*FL*

37.0	AN960C10L	washer
------	-----------	--------



Comment: Qty.: 28.0000 Each(s)/Unit Total : 28.0000 Each(s)

washer

Batch:

*m108618*

*FL*

38.0	AN960JD10L	Washer
------	------------	--------



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Washer

batch

*m104885*

*FL*

39.0	AN960JD416L	Washer
------	-------------	--------



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Washer

batch

*m108583*

*FL*

40.0	D3492049	Plug Assembly
------	----------	---------------



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

PLUG ASSEMBLY

batch

*037288 (x1) 040356 (x1)*

*FL*

41.0	D3492051	Plug Assembly
------	----------	---------------



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

PLUG ASSEMBLY

batch

*037289*

*FL 08/08/21 0*

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Monday, 07/07/2008 4:17:32 PM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 40334A

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

42.0

D3492053

Plug Assembly



Comment: Qty.: 6.0000 Each(s)/Unit Total : 6.0000 Each(s)

PLUG ASSEMBLY

batch

039017

FL

43.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

1-Inspect for Foreign objects

2-Install Aft cap as per Dwg D3582, Detail "C"

A/R 241 Sika Flex

Batch:

M108801

Exp Date:

08/10

3-Install Wearplates as per Dwg D3582 ,

Note:Install Bolt and washer on Ground Wire inserts on top of tube see section D-D of dwg D3582

\*\*\*\*\*Do not install bolts where indicated on Dwg(Note #6)\*\*\*\*\*

A/R 241 Sika Flex

Batch:

M108801

Exp Date:

08/10

FL  
08/08/21

①

4- Wing Walk as per Dwg D3043 and QSI 005 4.4

M108496

- FL 08/08/22 ①

44.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/08/25

45.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D117-762-041

Location:

PPP Rev:

PPP 40334

8/8/25

SL

46.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/08/26

Job Completion



u 08.08.26

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

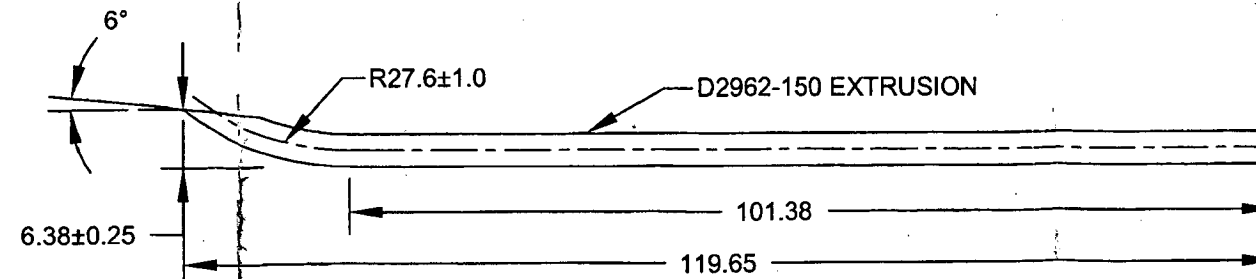
**NOTE:** Date & initial all entries

# PARTS LIST FOR D3582-041 SKIDTUBE ASSEMBLY

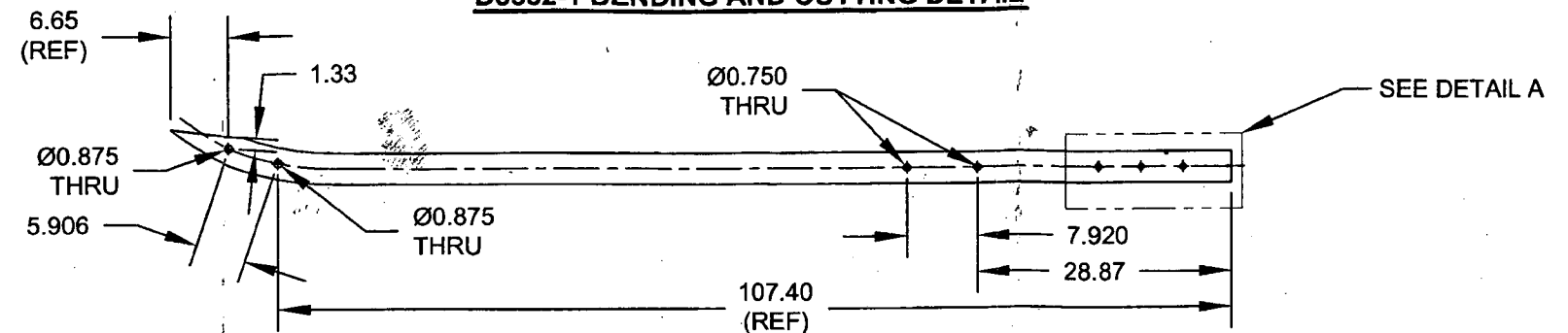
Qty	Part Number	Description
X	D3582-041	SKIDTUBE ASSEMBLY
1	D2962-150	EXTRUSION
1	D2964	CAP
1	D2965	CAP
1	D2971	CROSS BOLT SPACER
2	D2973	CROSS BOLT SPACER
2	D3492-049	PLUG ASSEMBLY
2	D3492-051	PLUG ASSEMBLY
6	D3492-053	PLUG ASSEMBLY
1	D3508-3	WEARPLATE
1	D3508-9	WEARPLATE
1	D3508-11	WEARPLATE
1	D3508-13	WEARPLATE
1	D3558-3	GASKET
1	D3558-9	GASKET
1	D3558-11	GASKET
1	D3558-13	GASKET
1	D3584-1	WEB
3	D3662-1	CROSS BOLT SPACER
1	D3662-3	CROSS BOLT SPACER
36	AELS-1032-130	INSERT
2	ALS7-428-165	INSERT
28	AN3C4A	BOLT
2	AN3-5A	BOLT
2	AN4-4A	BOLT
28	AN960C10L	WASHER
2	AN960JD10L	WASHER
2	AN960JD416L	WASHER

## GENERAL NOTES:

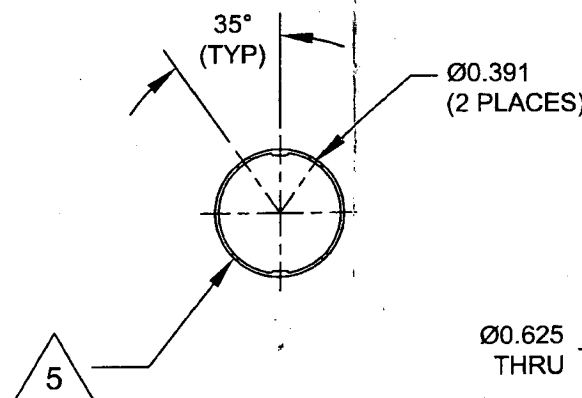
- ALL DIMENSIONS ARE IN INCHES
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- WELDING TO BE DONE PER DART QSI 004.
- INSERT D3584-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 AFTER BENDING.
- USE DART DRILL TEMPLATE DT8900 TO LOCATE AND DRILL  $\varnothing 0.297$  HOLES (36 PLACES) FOR WEARSHOE INSERTS. INSTALL AELS-1032-130 PER SECTION G-G (36 PLACES) AFTER FINISH. SEAL WEARPLATE BOLTS WITH SIKAFLEX-241/-291.
- DO NOT INSTALL AN3C4A BOLTS AND AN960C10L WASHERS IN INDICATED LOCATIONS.
- FINISH:
  - CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3584-1 WEB.
  - POWDER COAT ASSEMBLY GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3.
  - ANTI-SKID PAINT AS INDICATED TO 1.00 ABOVE CENTER LINE PER DART QSI 005 4.4



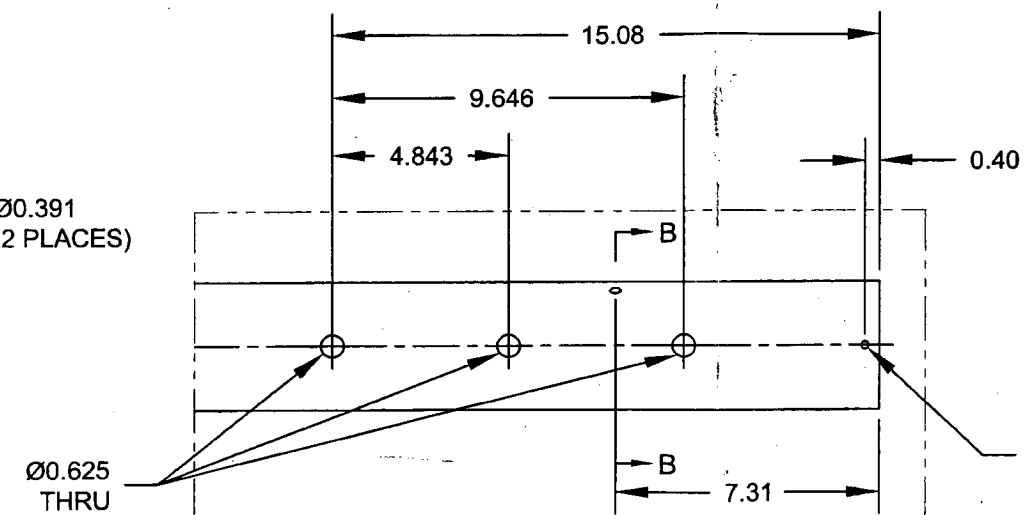
**D3582-1 BENDING AND CUTTING DETAIL**



**D3582-1 DRILLING DETAIL**



**SECTION B-B**  
SCALE 1:5

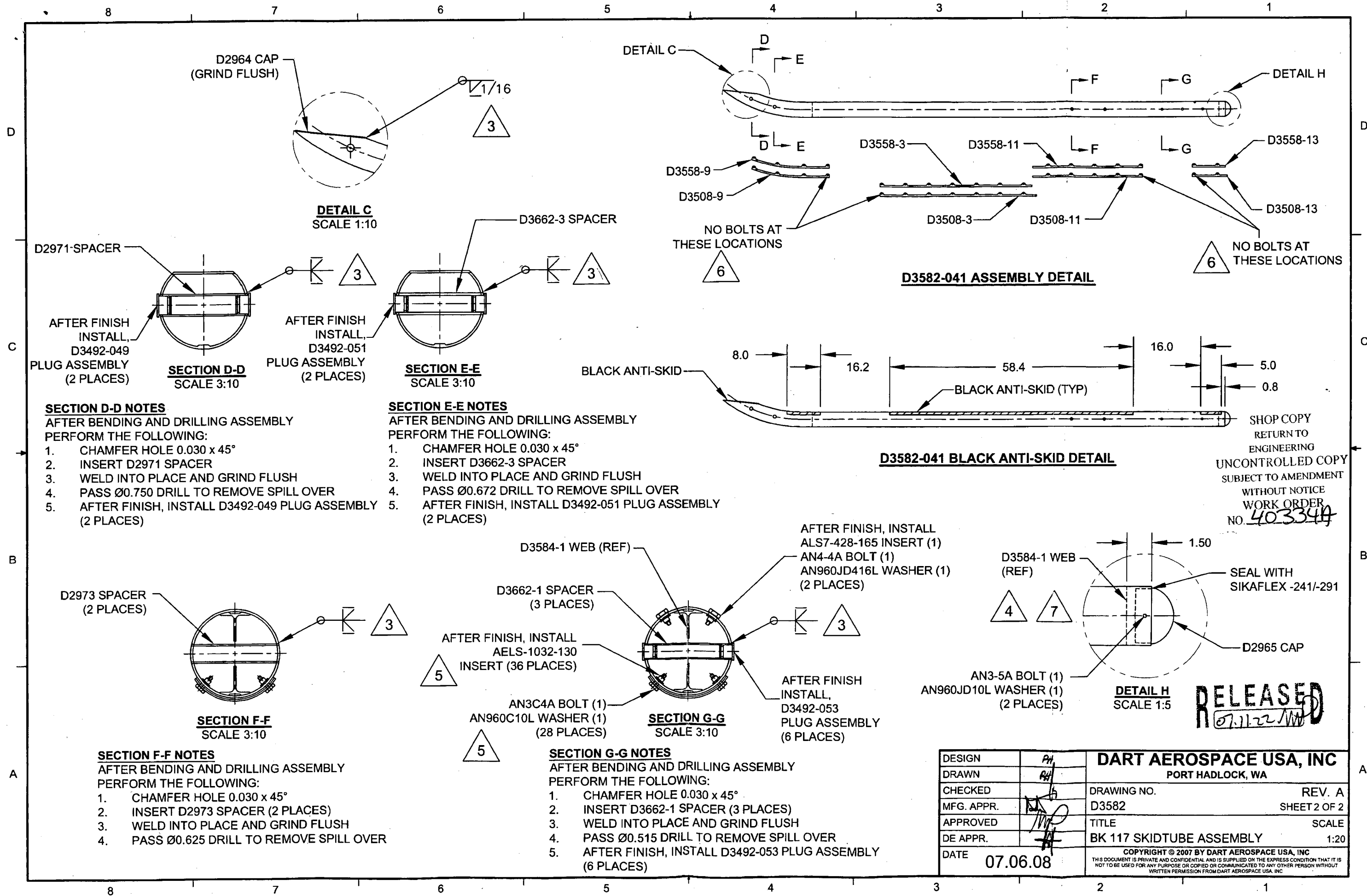


**DETAIL A**  
SCALE 1:5

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 403347  
0.209  
THRU

**RELEASED**  
67.11.22

A	NEW ISSUE	PH	07.06.08
REV.	DESCRIPTION	BY	DATE
DESIGN	24	<b>DART AEROSPACE USA, INC</b> PORT HADLOCK, WA	
DRAWN	PH		
CHECKED	24	DRAWING NO.	REV. A
MFG. APPR.	24	D3582	SHEET 1 OF 2
APPROVED	24	TITLE	SCALE
DE APPR.	24	BK 117 SKIDTUBE ASSEMBLY	1:20
DATE	07.06.08	COPYRIGHT © 2007 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	



SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 403344

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	PH	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D3582	SHEET 2 OF 2
APPROVED		TITLE	SCALE
DE APPR.		BK 117 SKIDTUBE ASSEMBLY	1:20
DATE	07.06.08	COPYRIGHT © 2007 BY DART AEROSPACE USA, INC	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC			



NO. 148

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Barday Elliot  
Job number: 38384A  
Part number: D117 762 041  
Description: Skid tube BK117  
Welding Process: Tig[☒] Mig[ ]  
Base material: Aluminium  
Current: AC[☒] DC[ ]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[ ]  
Penetration: pass[☒] fail[ ]

UNACCEPTABLE

Cracks: pass[☒] fail[ ]  
Undercut: pass[☒] fail[ ]  
Pin holes: pass[☒] fail[ ]  
Overlap (cold lap): pass[☒] fail[ ]  
Porosity (surface): pass[☒] fail[ ]  
Coloration: pass[☒] fail[ ]

Qualifier Pet. Duval Date of Test Coupon 08-04-14  
Welder Barday Elliot Date of Test Coupon 08-04-14

The above named individual is qualified in accordance with AWS D17.1.2001 to weld